5. Protocols of communication via RS-485

5.1 ‘Marvelmind’ protocol for streaming

Supported hardware:

Super-Beacon:	not supported
Industrial Super-Beacon:	supported
Modem HW5.1:	not supported
Super-Modem:	supported
Mini-RX (Badge, Helmet, etc.):	not supported
Mini-TX:	not supported
Mini-TX-2:	not supported
Modem HW4.9:	not supported
Beacon HW4.9:	not supported
Beacon HW4.5:	not supported

All packets described in corresponding section for UART are also available via RS-485.

Note these data are available only for Super-Modem and Industrial Super-Beacon, because they have RS-485 hardware onboard.

5.2 Protocol of reading/writing data from/to user device

Supported hardware:

Super-Beacon:	not supported
Industrial Super-Beacon:	on demand
Modem HW5.1:	not supported
Super-Modem:	on demand
Mini-RX (Badge, Helmet, etc.):	not supported
Mini-TX:	not supported
Mini-TX-2:	not supported
Modem HW4.9:	not supported
Beacon HW4.9:	not supported
Beacon HW4.5:	not supported

All packets described in corresponding section for UART can be implemented on demand.

Note these data can be available only for Super-Modem and Industrial Super-Beacon, because they have RS-485 hardware onboard.

5.3 NMEA0183 communication protocol

Supported hardware:

Super-Beacon:	not supported
Industrial Super-Beacon:	supported
Modem HW5.1:	not supported
Super-Modem:	supported (starting from SW V7.000)
Mini-RX (Badge, Helmet, etc.):	not supported
Mini-TX:	not supported
Mini-TX-2:	not supported
Modem HW4.9:	not supported
Beacon HW4.9:	not supported
Beacon HW4.5:	not supported

All packets described in corresponding section for UART are also available via RS-485.

Note these data are available only for Super-Modem and Industrial Super-Beacon, because they have RS-485 hardware onboard.

6. Protocols of communication via SPI

6.1 Packet with hedgehog location

Supported hardware:

Super-Beacon:	supported
Industrial Super-Beacon:	not supported
Modem HW5.1:	on demand
Super-Modem:	not supported
Mini-RX (Badge, Helmet, etc.):	not supported
Mini-TX:	not supported
Mini-TX-2:	not supported
Modem HW4.9:	not supported
Beacon HW4.9:	supported
Beacon HW4.5:	supported

Super-Beacon, Beacon HW4.9 and Beacon HW4.5 can work as SPI slave devices and support reading packet with hedgehog location data. Modem HW5.1 has hardware SPI support and software support can be added on demand.

6.2 Other data via SPI

Supported hardware:

Super-Beacon:	on demand
Industrial Super-Beacon:	not supported
Modem HW5.1:	on demand
Super-Modem:	not supported
Mini-RX (Badge, Helmet, etc.):	not supported
Mini-TX:	not supported
Mini-TX-2:	not supported
Modem HW4.9:	not supported
Beacon HW4.9:	not supported
Beacon HW4.5:	not supported

Support of other data packets described in chapter 2 can be added on demand for Super-Beacon and modem HW5.1

7. Protocols of communication via I^2C

7.1 Compass emulation for drones

Supported hardware:

Super-Beacon:	supported
Industrial Super-Beacon:	not supported
Modem HW5.1:	not supported
Super-Modem:	not supported
Mini-RX (Badge, Helmet, etc.):	not supported
Mini-TX:	not supported
Mini-TX-2:	not supported
Modem HW4.9:	not supported
Beacon HW4.9:	not supported
Beacon HW4.5:	not supported

Paired Super-Beacons can work as more stable and precise compass connected via I2C to PX4 or Ardupilot.

IST8310 compass is emulated.

Please refer to this document for more details.

7.2 Other data via I^2C

Supported hardware:

Super-Beacon:	on demand
Industrial Super-Beacon:	not supported
Modem HW5.1:	on demand
Super-Modem:	not supported
Mini-RX (Badge, Helmet, etc.):	not supported
Mini-TX:	not supported
Mini-TX-2:	not supported
Modem HW4.9:	not supported
Beacon HW4.9:	not supported
Beacon HW4.5:	not supported

Support of other data packets described in chapter 2 can be added on demand for Super-Beacon and modem HW5.1